

## **Guidelines for Developing Operation & Maintenance Plans DCR Water Quality Improvement Fund Grants**

### ***I. General Information***

This document provides guidelines for developing operation and maintenance plans required for grant projects administered by the Virginia Department of Conservation and Recreation (DCR). All DCR grant projects with implementation activities are required to have an Operation & Maintenance Plan (O&M Plan) to assure that best management practices (BMPs) continue to serve the intended purpose for which they were constructed.

The DCR Grant Agreement section (13) OPERATION AND MAINTENANCE requires the project sponsor to submit an O&M Plan for the project before the end of the first quarterly reporting period or other data as agreed to by DCR. Depending on the nature of the project, the O&M Plan may be as simple as referencing the Landowner Agreement to be used and identifying or describing the specifications to be followed for the BMP design, construction, and maintenance. Urban stormwater management BMP projects may require a more extensive O&M Plan but this can be simplified by following design, construction, and maintenance procedures outlined in the Virginia Stormwater Management Handbook.

These guidelines provide an overview of landowner agreements with an example agreement, instructions for O&M Plans for agricultural BMPs, details regarding O&M Plans for urban stormwater management practices, and an outline that can be used to develop an O&M Plan.

### ***II. Definitions***

- *Operations* = Activities necessary for the BMP to produce desired results.
- *Maintenance* = Activities necessary for upkeep of the BMP. These are activities that allow the BMP to function as intended including routine maintenance, non-routine maintenance, and inspections.

### ***III. Landowner Agreements***

Some grant projects offer financial assistance to landowners to implement BMPs. When this is the case, project sponsors must execute an appropriate agreement between them and the landowner(s). The primary purpose of the landowner agreement is to secure permission of access for construction, operation, maintenance, and inspections. Essentially, the landowner is responsible for the long-term maintenance of the BMPs and allowing access for inspection.

Some grant projects may offer compensation to landowners for their participation in a program (i.e. septic tank pump-outs). In these cases, the landowner agreement is used to secure a commitment from the landowner to be a cooperator, as opposed to getting their agreement for allowing access for inspections or to verify the BMPs are being maintained.

An optional condition for a landowner agreement may be to obtain permission to use the site for information and education programs. A project sponsor may pursue this as part of the landowner agreement if there are plans to host an educational program or field day in the near future to promote the type of BMPs being funded by the project.

Landowner agreements must be signed by all parties prior to initiation of construction. Each signature party must receive a copy of the signed landowner agreement. Project sponsors must maintain copies of all landowner agreements associated with DCR grant projects and make these agreements available to DCR staff as attachment to quarterly reports. A template landowner agreement is provided for use and modification by project sponsors (see Reference A).

#### ***IV. Agricultural BMP & TMDL Cost-Share Practices***

Practices to be funded by DCR grants, which are similar to those included in the Virginia Agricultural BMP & TMDL Cost-Share Programs, should follow requirements similar to those included in the state guidelines outlined in the most recent version of the Virginia Agricultural BMP Manual (cost share manual). The Operation & Maintenance Plan requirements for these practices are addressed by following the cost-share program guidelines. The cost-share manual is accessible from the DCR website, <http://www.dcr.virginia.gov/sw/costshar.htm>.

The cost-share manual contains policies and specifications for BMPs including riparian forest buffers, nutrient management plan writing, and stream channel stabilization. Section VIII, Total Maximum Daily Load Supplement (TMDL) of this manual provides policies regarding wastewater and on-site sewage disposal systems including septic tank pump-outs, connection to public sewer, repair and/or replacement of failing on-site sewage disposal systems, elimination of straight pipes, and installation of alternative waste treatment systems.

The cost share program manual includes a description, purpose, cost-sharing policies, and rate information for each best management practice. The lifespan of BMPs is often identified under the policies section, and when a BMP lifespan is not available, 10 years should be used. Virginia soil and water conservation districts (SWCDs) use the Cost-Share Request Forms (green forms) with the cost-share program. The green forms are a contract that addresses the requirements for an Operation & Maintenance Plan including access, lifespan, need for maintenance, and so forth. The “Applicants Request” and “Participant Practice Installation Certification” sections of the green forms, which must be signed by the landowner, serve as the Landowner Agreement and address operation and maintenance responsibility.

Project sponsors, other than SWCDs, may use a Landowner Agreement similar to the template on page C-5 to address access, lifespan, and maintenance, in lieu of the cost-share program green forms, and in combinations with the BMP specifications in the cost-share manual, in order to meet the O&M Plan requirements for BMPs funded through DCR project grants.

## ***V. Urban Stormwater Best Management Practices***

The O&M Plan for urban stormwater BMP projects must address provisions for design and construction to ensure proper operation of the BMP, and routine and non-routine maintenance so that the BMP continues to perform as designed. Stormwater BMPs should be designed in a manner to minimize the need for maintenance and to reduce the chances of failure. Design guidelines are outlined in the most recent version of the Virginia Stormwater Management (SWM) Handbook. This handbook is available on the web, <http://www.dcr.virginia.gov/sw/stormwat.htm#pubs>.

Routine maintenance of all stormwater BMPs shall be in accordance to the minimum standards outlined in the VA SWM Handbook. O&M Plans for all urban stormwater BMPs require a Maintenance Plan. The person(s) or organization(s) responsible for maintenance must be designated. Maintenance responsibility may fall to the property owner, homeowner's association, local government, or another. A maintenance agreement may be necessary, which would also include specifications on the responsibility for financing maintenance.

Non-routine maintenance includes maintenance activities that are infrequent, and depending on the BMP type these may be expensive, such as pond dredging or major repairs to stormwater structures. Non-routine maintenance should be performed on an as-needed basis based on information gathering during regular inspections. The O&M Plan should outline the person(s) or organization(s) responsible for inspections of the BMP, including the required frequency of BMP inspection in order to verify that the BMPs are being adequately maintained.

The Chapter 3 Appendix of the Virginia SWM Handbook contains checklists for stormwater BMPs, which may be used for achieving requirements for an O&M Plan. The checklists include design and plan review checklist, construction inspection and as-built checklist, and operation and maintenance inspection checklists. The Appendix is organized as follows:

- Appendix 3A – Introduction – Checklists
- Appendix 3B – Detention, Retention and Impoundment BMPs
- Appendix 3C – Infiltration BMPs
- Appendix 3D – Intermittent Sand Filters
- Appendix 3E – Bioretention

O&M Plans for urban SWM practices will be met by following the minimum standards for BMPs in the Virginia SWM Handbook, by having a sufficient maintenance plan (or maintenance schedule), and as is appropriate, a Maintenance Agreement or a Landowner Agreement. It should also be noted that the lifespan of urban BMPs is often for as long as the BMP continues to be used to meet the stormwater management needs of the site for which it was originally constructed. However, for the enforcement aspect of the DCR grants, unless specified otherwise, the standard lifespan for stormwater BMPs is ten years, recognizing that the BMP should continue to be maintained for as long as it is used to meet the SWM needs of the site for which it was constructed.

## **VI. Operation & Maintenance Plan – Outline**

The O&M Plan should contain information on the standards to be followed for design and construction of BMPs, normal operating procedures, and maintenance responsibilities. Below is an outline that can be followed in preparing an O&M Plan for a WQIF grant project.

### **A) Introduction and general information**

1. Name and contact information for responsible organization or individual.
2. Provide narrative overview describing the site, drainage areas, proposed BMPs.

### **B) BMP design and construction**

1. Will plans or drawings be used to identify location of BMPs?
2. Provide design information: design parameters, features, methods and materials of construction, and other key characteristics of BMP to be constructed.
3. What permits are required for the site? What is the status of acquiring permits? (i.e. sewage disposal system construction permits from the Virginia Department of Health, stormwater general discharge or construction site permits from the DCR, approved erosion and sediment control plan from the locality or DCR, etc.)
4. What specifications will be followed during construction of BMPs? (i.e. state guidelines, manufacturer's publications, etc.)
5. Will stormwater calculations be submitted to the locality or DCR for approval?

### **C) Normal operating procedures**

1. What is the lifespan of the BMP?
2. What are the normal operating procedures or minimum standards that are required in order for the BMP to produce desired results?
3. Are BMPs interrelated and if so how does each BMP work with the next one?

### **D) Maintenance responsibility & plan**

1. Name and contact information for the individuals responsible for maintenance.
2. Provide copy of the Maintenance Agreement and/or Landowner Agreement that will be used to assign maintenance responsibility and/or to allow access for maintenance or inspection of the BMPs. Provide copy of Landowner Agreement to be used.
3. Maintenance Plan - Define the maintenance activities or program and schedule to be established to ensure that BMPs continues to operate as intended.
4. If maintenance funding will be required (particularly for nonroutine maintenance of large SWM BMPs), identify the sources of funds for maintenance, budget category or line item, or a description of procedure to ensure adequate funding.
5. Identify the persons or organization responsible for inspections of BMP, including the required frequency of inspections to verify BMP is being maintained.